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# ANNALS

## OF THE SOUTH AFRICAN MUSEUM



CAPE TOWN





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- FISCHER, P.-H. 1948. Données sur la résistance et de la vitalité des mollusques. *J. Conch.*, Paris 88: 100-140.
- FISCHER, P.-H., DUVAL, M. & RAFFY, A. 1933. Études sur les échanges respiratoires des littorines. *Archs Zool. exp. gén.* 74: 627-634.
- KOHN, A. J. 1960a. Ecological notes on *Conus* (Mollusca: Gastropoda) in the Trincomalee region of Ceylon. *Ann. Mag. nat. Hist.* (13) 2: 309-320.
- KOHN, A. J. 1960b. Spawning behaviour, egg masses and larval development in *Conus* from the Indian Ocean. *Bull. Bingham oceanogr. Coll.* 17 (4): 1-51.
- THIELE, J. 1910. Mollusca: B. Polyplacophora, Gastropoda marina, Bivalvia. In: SCHULTZE, L. *Zoologische und anthropologische Ergebnisse einer Forschungsreise im westlichen und zentralen Süd-Afrika* 4: 269-270. Jena: Fischer. *Denkschr. med.-naturw. Ges. Jena* 16: 269-270.

(continued inside back cover)

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THE SOUTH AFRICAN MUSEUM'S  
*MEIRING NAUDE* CRUISES  
PART 2  
CRUSTACEA, DECAPODA, ANOMURA AND BRACHYURA

By  
BRIAN KENSLEY

Cape Town

Kaapstad

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# THE SOUTH AFRICAN MUSEUM'S *MEIRING NAUDE* CRUISES

## PART 2

### CRUSTACEA, DECAPODA, ANOMURA AND BRACHYURA

By

BRIAN KENSLEY

*South African Museum, Cape Town*

(With 17 figures)

[MS. accepted 7 December 1976]

#### ABSTRACT

Twenty-seven species of anomuran and brachyuran decapod crustaceans from deep water off Natal are dealt with. Of the nine new records for the area, five are described as new species. These are *Uroptychus foulisi*, *Uroptychus simiae*, *Uroptychus undecimspinosus*, *Pseudodromia spinosissima* and *Rochinia natalensis*.

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#### INTRODUCTION

The present paper forms part of a series, based on material collected by the South African Museum during two cruises off the Natal coast, on the R/V *Meiring Naude*. For the scope of, and the background to this programme, as well as for all station data, the reader is referred to Louw (1977).

Only the systematics of the Anomura and Brachyura collected are here presented. It is hoped to deal with aspects of the benthic ecology and zoogeography of the cruises in a separate paper.

The following abbreviations are used throughout this paper: SAM—South African Museum catalogue number; SM—*Meiring Naude* station numbers; CB—carapace breadth; CL—carapace length; R—rostrum; ovig.—ovigerous; juv.—juvenile.

#### SPECIES LIST

	SM Station no.	♂♂	ovig. ♀♀	♀♀	juv.
Suborder ANOMURA					
Family Paguridae					
<i>Pagurus</i> sp. . . . .	22	—	—	1	—
	66	1	—	—	—
<i>Parapagurus pilosimanus</i> Smith . . . . .	22	—	—	4	—
	28	—	—	1	—
	38	5	6	—	—

	SM Station no.	♂♂	♀♀	ovig. ♀♀	juv.
<i>Parapagurus pilosimanus</i> Smith (cont.)	58	1	—	—	—
	66	3	4	—	—
	83	5	3	4	—
	91	—	1	—	—
* <i>Porcellanopagurus</i> sp. . . . .	43	—	1	—	—
Family <b>Lithodidae</b>					
* <i>Lithodes murrayi</i> Henderson . . . . .	83	—	—	1	—
Family <b>Chirostylidae</b>					
* <i>Uroptychus foulisi</i> sp. nov. . . . .	107	1	—	1	—
<i>Uroptychus nitidus</i> (A. M. Edwards) . . . . .	28	—	1	—	—
	31	1	1	—	—
	38	23	22	12	—
	44	—	2	—	—
	58	4	3	3	—
	66	8	6	10	—
	72	—	1	—	—
	74	17	20	11	—
	75	2	2	—	—
	83	5	8	2	—
	91	1	2	1	—
	99	—	1	1	—
	107	10	17	8	—
* <i>Uroptychus simiae</i> sp. nov. . . . .	23	3	2	1	—
	86	7	4	9	—
* <i>Uroptychus undecimspinosus</i> sp. nov. . . . .	43	1	1	1	4
Family <b>Galatheidæ</b>					
<i>Munida incerta</i> Henderson . . . . .	15	4	1	1	—
<i>Munida sanctipauli</i> Henderson . . . . .	38	—	1	—	—
	67	1	—	—	—
	100	1	—	—	—
	103	1	—	—	—
* <i>Munidopsis dasypus</i> Alcock . . . . .	10	—	—	1	—
Suborder BRACHYURA					
Family <b>Homolodromiidae</b>					
* <i>Homolodromia bouvieri</i> Doflein . . . . .	22	1	—	—	—
Family <b>Dromiidae</b>					
* <i>Pseudodromia spinosissima</i> sp. nov. . . . .	16	1	—	—	—
	43	—	—	1	—
	86	2	—	—	—
dromiid (damaged) . . . . .	115	1	—	—	—
Family <b>Dorippidae</b>					
<i>Cymonomus trifurcus</i> Stebbing . . . . .	86	—	—	1	—
Family <b>Leucosiidae</b>					
<i>Ebalia</i> sp. . . . .	86	—	—	—	3
<i>Philyra globulosa</i> A. M. Edwards . . . . .	114	1	—	—	—
Family <b>Majidae</b>					
<i>Achaeopsis spinulosus</i> Stimpson . . . . .	86	—	—	1	—

\* new record

	SM Station		ovig.		juv.
	no.	♂♂	♀♀	♀♀	
<i>Platymaia turbynei</i> Stebbing . . . . .	7	29	17	10	—
	15	1	—	—	—
	38	8	7	—	—
	58	9	12	—	—
	66	2	1	1	—
	72	—	1	—	—
	74	4	1	—	—
	107	2	2	—	—
<i>Pleistacantha moseleyi</i> (Miers) . . . . .	15	—	1	—	—
* <i>Rochinia natalensis</i> sp. nov. . . . .	23	1	—	—	—
	43	—	—	1	—
Family <b>Portunidae</b>					
<i>Charybdis smithii</i> McLeay . . . . .	5	1	—	—	—
	45	1	2	—	—
<i>Portunus hastatoides</i> Fabricius . . . . .	115	2	—	—	—
<i>Portunus sanguinolentus</i> (Herbst) . . . . .	115	2	2	—	—
Family <b>Goneplacidae</b>					
<i>Geryon quinquedens</i> Smith . . . . .	38	3	1	—	—
<i>Geryon</i> sp. . . . .	67	—	—	—	1
<i>Litocheira kingsleyi</i> (Miers) . . . . .	86	1	—	—	—

\* new record

## SYSTEMATIC DISCUSSION

### Family **Paguridae**

#### *Pagurus* sp.

#### *Description*

Eyestalks shorter than anterior border of carapace; cornea dilated. Rostrum and ophthalmic scales acute. Fingers of left cheliped longer than palm, scattered conical spines on dorsal surface of palm and fixed finger; carpus with row of spines on inner dorsal margin and scattered spines on rest of dorsal surface. Right cheliped longer and more robust than left, cutting edges of fingers with several large white teeth; dorsal surface of palm with scattered conical spines and numerous elongate setae; carpus with median dorsal row of spines and double row of spines on inner dorsal margin; merus with three spines on disto-dorsal margin and few scattered ventral spines.

Female carrying four unpaired pleopods on abdomen; male with three unpaired pleopods, vasa deferentia not protruding.

#### *Material*

SAM-A15340 SM 22 1 ovig. female

SAM-A15339 SM 66 1 male.

#### *Remarks*

In the shape and spination of the chelipeds, the present material agrees with *Eupagurus investigatoris* Alcock, 1905 (p. 28, pl. 11 (fig. 2)). This species, however, possesses slender eyestalks which are slightly longer than the anterior



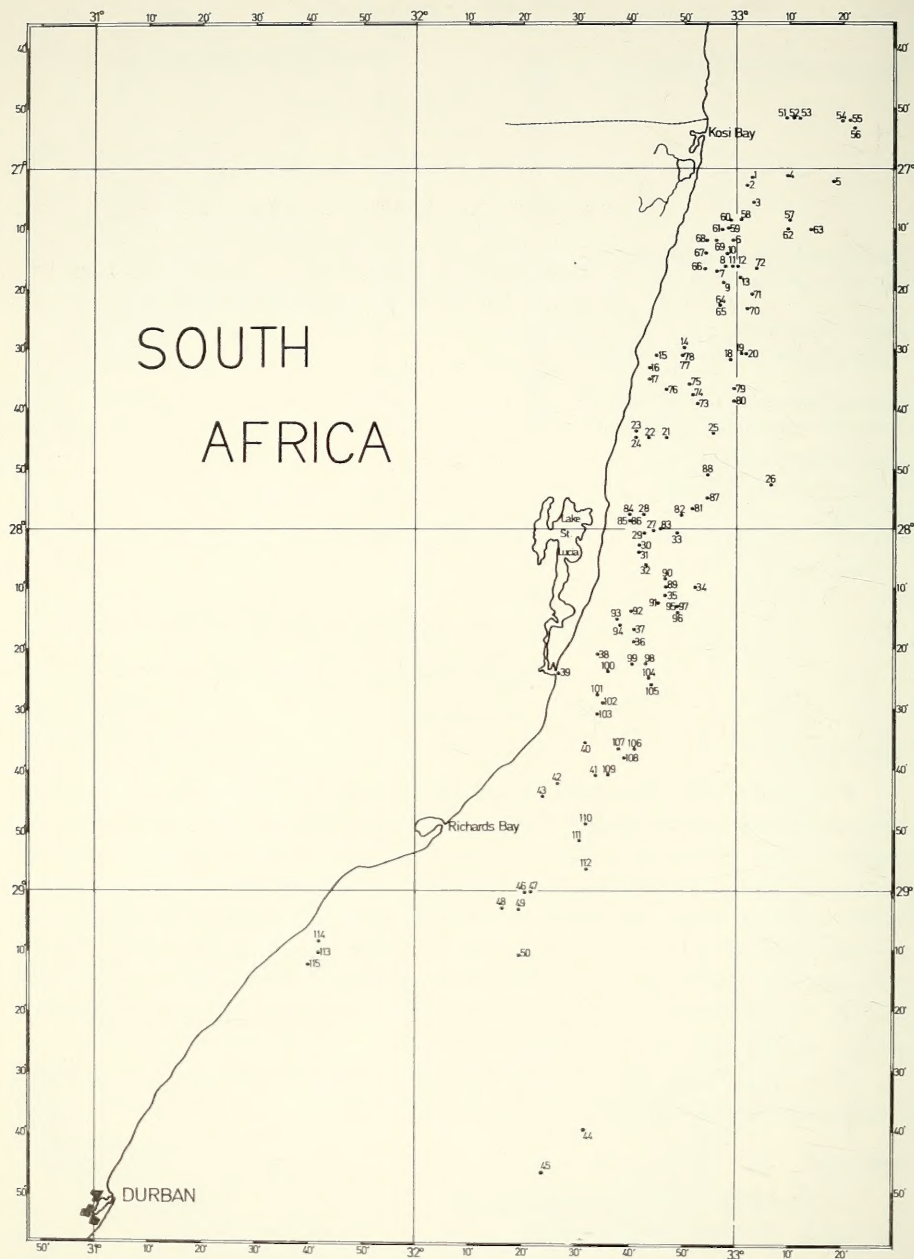


Fig. 1. Map showing distribution of stations.



border of the carapace. As this group of pagurids requires revision, further identification is not attempted.

*Porcellanopagurus* sp.

Fig. 2

*Description*

Carapace slightly longer than broad; rostrum broadly triangular; antero-lateral corner a strong triangular tooth; three lateral carapace lobes, first a small spine preceded by a rounded process and followed by two or three crenulations, second and third lobes strong, dentiform; gastric area demarked by shallow grooves. Abdomen straight, right side more inflated than left, tail-fan symmetrical, telson as long as broad with very slight median notch.

Eyestalks not reaching end of third antennal peduncle segment.

Outer distal angle of basal antennal peduncle segment spinose, antennal scale almost twice length of second segment, cylindrical.

Third maxilliped pediform, bases separate.

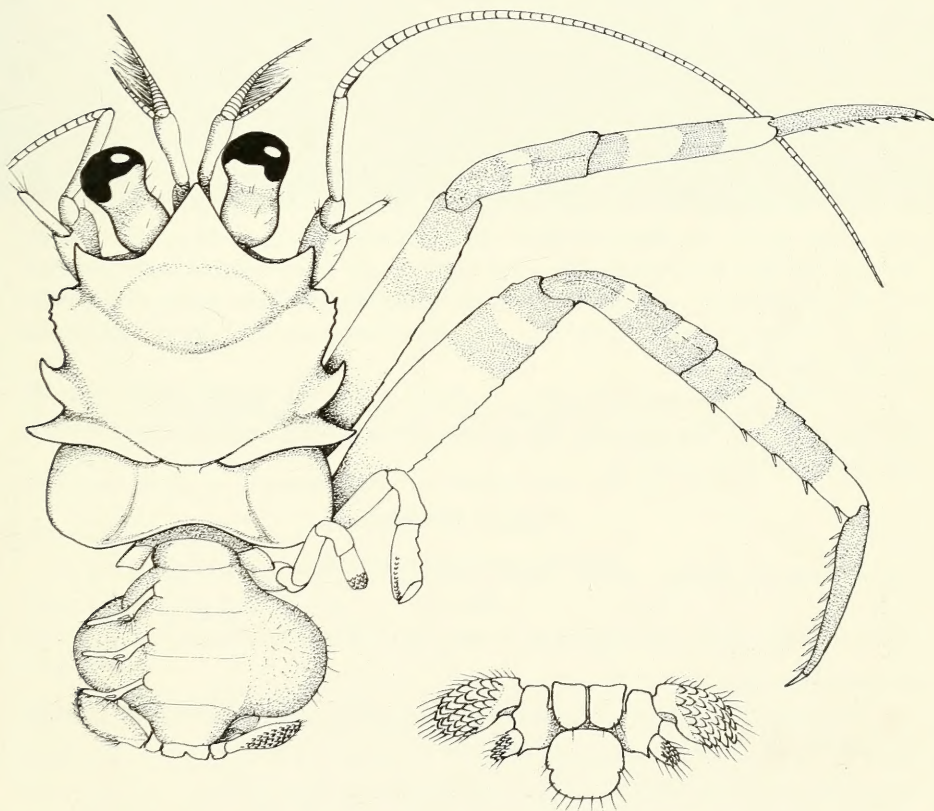


Fig. 2. *Porcellanopagurus* sp. Dorsal view with tail fan enlarged.

Chelipeds both regenerating, not fully developed.

Second and third pereopods similar, third slightly longer; dactyli with short slender spines on ventral margin, meri four times longer than wide.

Fourth pereopod longer than fifth, subdorsal, propodus carrying row of denticles on dorsal margin, distal lobe forming chela with claw-like dactyl.

Fifth pereopod with tiny chela, propodus armed with distal denticles.

Three biramous pleopods present on left side, upper ramus tiny.

Colour pattern: ambulatory pereopods with broad red bands on a cream ground; carapace, rostral apex and eyestalks with red patches.

#### Material

SAM-A15302 SM 43 1♂ CL 4,1 mm CB 4,0 mm.

#### Remarks

Four species of this rather rare genus have been recorded, viz. *P. edwardsi* Filhol, from Auckland Is., Campbell Is., Stewart Is., and North Cape, New Zealand; *P. platei* Lenz from Juan Fernandez (regarded by Bennett (1932) as extremely close to, if not synonymous with *P. edwardsi*); *P. japonica* Balss from Japan, and *P. tridentatus* Whitelegge from New South Wales.

The incompletely developed chelipeds of the present specimen make identification difficult. Some differences between the above-mentioned four species and the present small female, however, are apparent. The telson of *P. edwardsi* is broader than long, rather than almost circular in the Natal specimen; the latter also lacks a median rostral ridge. The close similarity of *P. platei* to *P. edwardsi* also eliminates this species; in addition Lenz (1902, pl. 23, fig. 2) shows the telson apically pointed. *P. tridentatus* differs from the present species in that the lateral carapace lobes are smaller and more spinose, and the meri of the ambulatory pereopods are three times longer than wide. *P. japonica* also possesses a pointed telson and the lateral carapace lobes are not as strong as the Natal specimen.

In view of the small number of specimens in this genus, the taxonomic uncertainty, and the lack of chelipeds in this specimen, specific status cannot be given with any certainty.

#### Family Lithodidae

##### *Lithodes murrayi* Henderson

#### Fig. 3

*Lithodes murrayi* Henderson, 1888: 43, pl. 4. Hale, 1941: 272, pl. 3 (figs 3-4). Arnaud, 1971: 167.

#### Previous records

Possession Is., Prince Edward Is., Macquarie Is., Crozet Is., off Durban (unpublished, P. Berry, pers. comm.).

#### Material

SAM-A15004 SM 83 1 ovig. ♀ CL+R 158 mm.



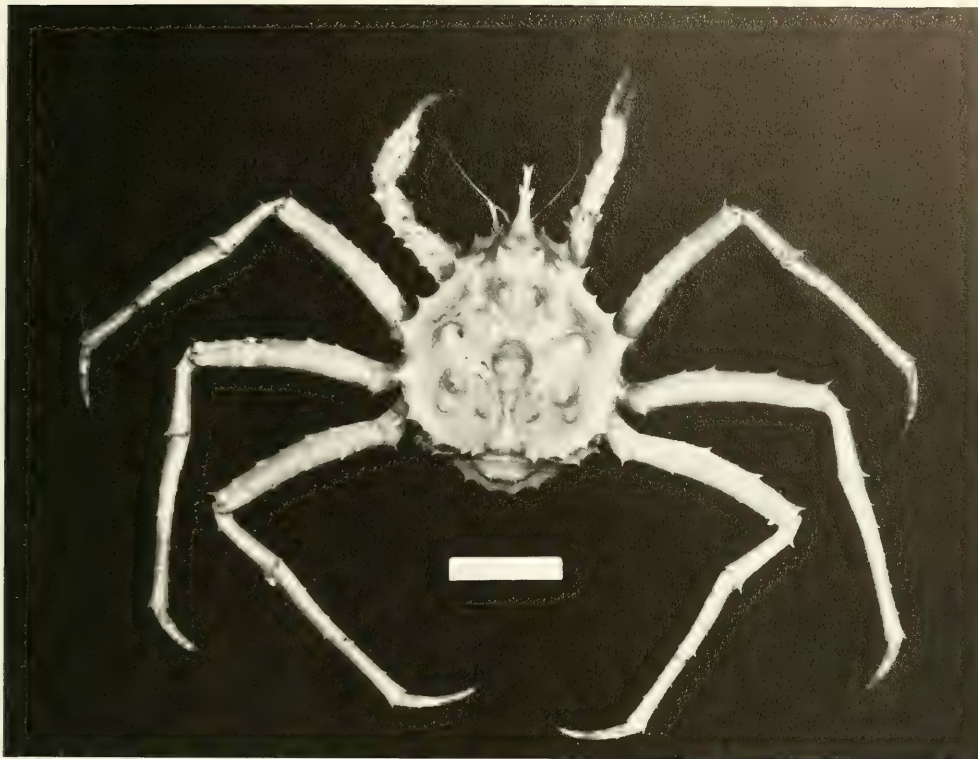


Fig. 3. *Lithodes murrayi*. Scale = 50 mm.

*Uroptychus nitidus* (A. M. Edwards)

Fig. 4

*Diptychus nitidus* Edwards, 1880: 62.

*Uroptychus nitidus* Stebbing, 1902: 32; 1910: 365. Barnard, 1950: 495. fig. 92g-i.

*Uroptychus nitidus occidentalis* Faxon, 1895: 101, pl. 26 (fig. 1). Baba, 1973: 120, fig. 2, pl. 4 (fig. 1).

*Uroptychus nitidus* var. *concolor* Edwards & Bouvier, 1894: 225, figs 16, 21.

*Previous records*

Off Natal, off East London, West Indies, eastern North Atlantic, west coast of America, off Florida.

*Material*

See *Species List*, page 162.

*Remarks*

Both the fact that several subspecies of this species have been described, and that Edwards & Bouvier (1894), Stebbing (1902) and Chace (1942) mention



variations within specimens from a single locality, indicate that this widespread species is very variable. Within the present Natal material, variation in the carapace spination was noticed. In the majority of specimens (and also in the material from Florida that was examined) the slight ridges lateral to the rostral base are barely noticeable (Fig. 4 bottom), but in a small percentage of both males and females this ridge bears a single small spine (Fig. 4 top).

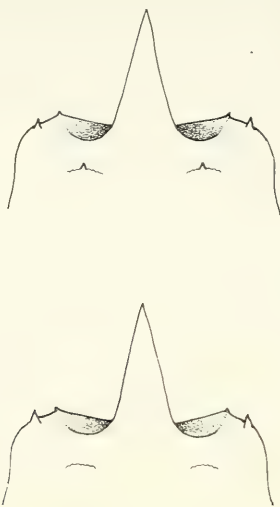


Fig. 4. *Uroptychus nitidus*. Variation in anterior carapace.

*Uroptychus foulisi* sp. nov.

Fig. 5

*Description*

Carapace and appendages carrying numerous fine silky hairs; carapace dorsally unarmed, with numerous tiny pits, broadest at level of second ambulatory pereopods, broader than mid-dorsal length (not including rostrum); rostrum extending well beyond eyestalks, margin entire; antero-lateral angle a strong spinose process, lateral margin with strong ridge-like tubercle at anterior quarter, short spinose tubercle at about midpoint followed by about five tubercles decreasing in size posteriorly. Sternum between third maxillipeds with V-shaped emargination, with no trace of median notch.

Cornea of eye narrower than eyestalk, latter setose.

Crest on basal antennular segment apically truncate with spine at each distal corner. Antennal acicle not quite reaching midpoint of distal peduncular segment; second segment with small point on inner distal angle.

Dactylus and propodus of third maxilliped with thick pad of setae; ischium with inner margin finely denticulate.

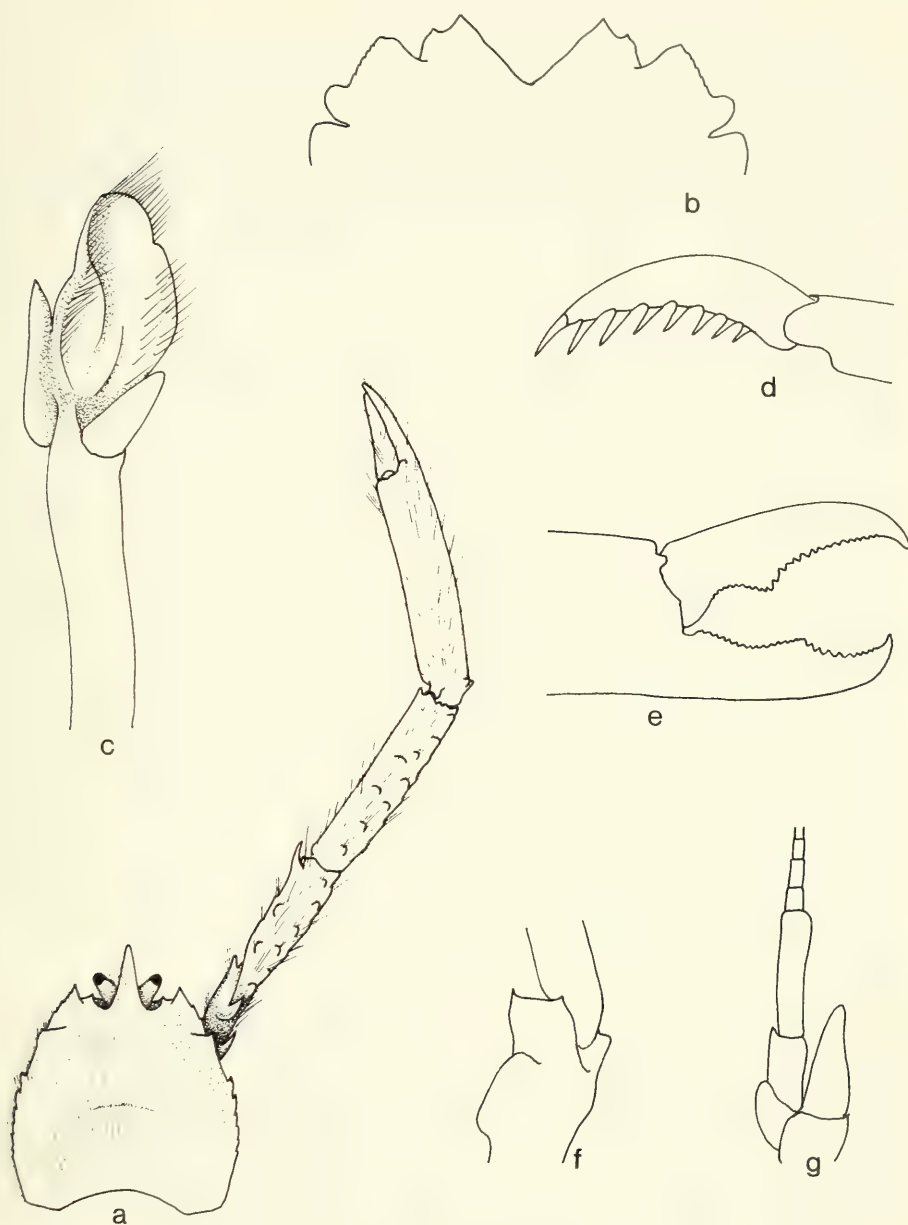


Fig. 5. *Uroptychus foulisii*.

a. Holotype in dorsal view, setae of right side omitted; b. anterior portion of sternum; c. second pleopod, male; d. dactylus of second pereopod; e. chela; f. base of antennule; g. antenna.

Dactylus of cheliped with cutting edge finely denticulate, with triangular tooth at proximal third; cutting edge of propodal finger finely denticulate, finger and thumb half length of palm; carpus slightly shorter than palm, outer surface with scattered low tubercles; merus with strong spine on inner distal angle, rest of merus with scattered low tubercles; ischium with small ventro-distal spine and strong hook-like dorso-distal spine; similar hook-like spine on basis. Dactyli of ambulatory pereopods curved, with eight strong spines on ventral edge.

### Material

SAM-A15336 SM 107. holotype 1♂ CL+R 7,5 CB 6,9  
allotype 1 ovig. ♀ CL+R 8,2 CB 7,9

### Remarks

*U. foulisi* belongs to that group of the genus characterized by the possession of a carapace which is broader than long, and which lacks dorsal spination. Five species fall into this group, but none agree with the present material. *U. suluensis* van Dam has a rostrum and chelipeds too short and broad, and a different sternum. *U. tormentosus* Baba shows a different sternum and the lateral carapace spines are not strong enough. *U. onychodactylus* Tirmizi has no lateral carapace spines, non-spinose chelipeds, and different ambulatory dactyli. *U. siraji* Tirmizi possesses crenulate lateral carapace margin and non-spinose chelipeds. *U. scambus* Benedict has a very short and triangular rostrum and lacks lateral carapace spines.

The species is named for Capt. G. Foulis, master of the Research Vessel *Meiring Naude*.

### *Uroptychus simiae* sp. nov.

Figs 6-7

### Description

Carapace (excluding rostrum) longer than wide; rostrum broadly triangular, dorsally slightly concave, reaching halfway along eyestalks; antero-lateral angle strongly spinose; single strong lateral carapace spine followed by two or three smaller denticles; lateral plate bearing five or six spines just below linea anomurica, not visible in dorsal view. Carapace dorsally smooth, cervical groove faint. Anterior sternum with two spines at base of broad median notch, two broad spines at base of third maxillipeds, single large spine and several serrations at base of chelipeds.

Distal process of basal antennular segment with four blunt denticles.

Antennal acicle not reaching end of peduncle.

Third maxilliped with median margin of merus finely denticulate, proximal teeth larger and more spaced; ischium with three teeth on median margin.



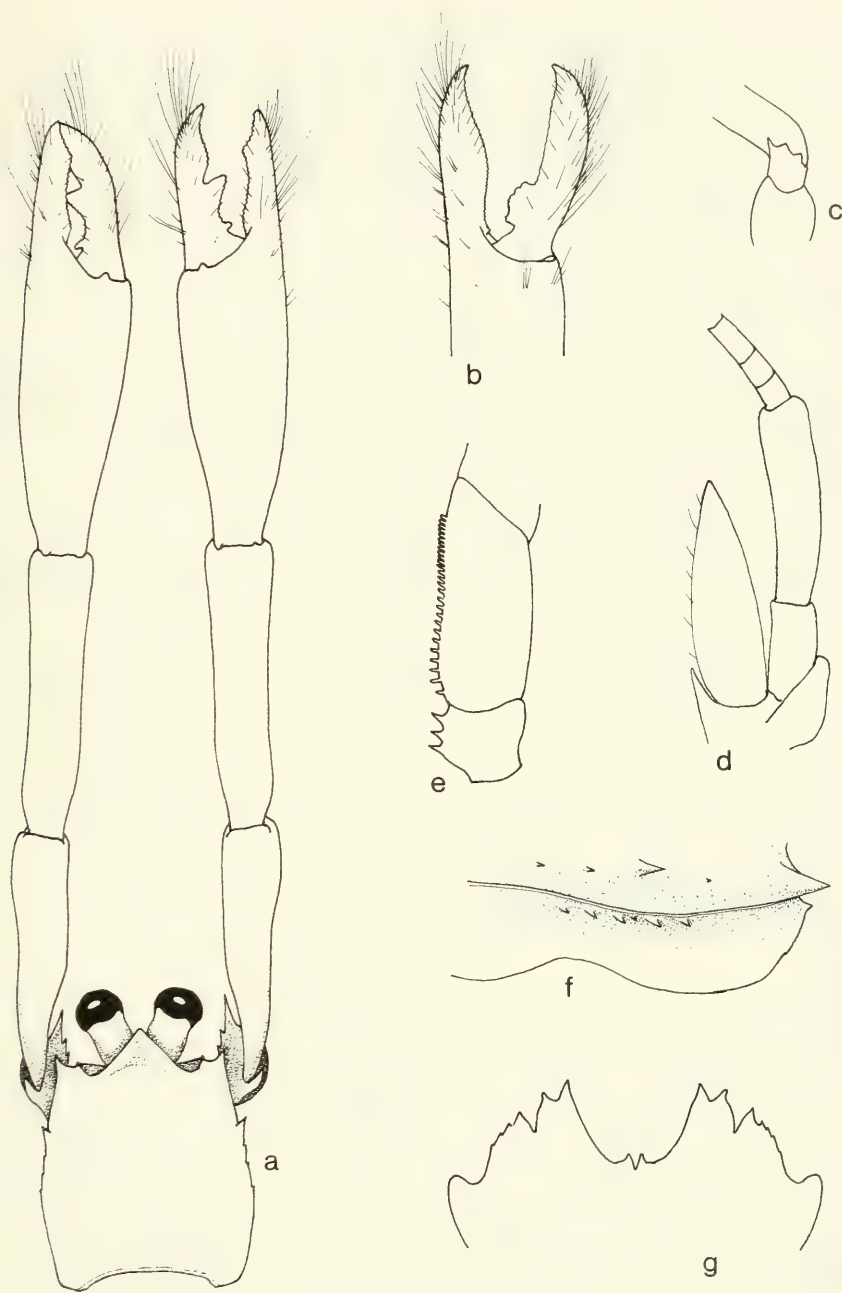


Fig. 6. *Uroptychus simiae*.

a. Holotype in dorsal view; b. chela of female; c. base of antennule; d. antenna; e. merus and basis of third maxilliped; f. antero-lateral area of carapace; g. anterior portion of sternum.

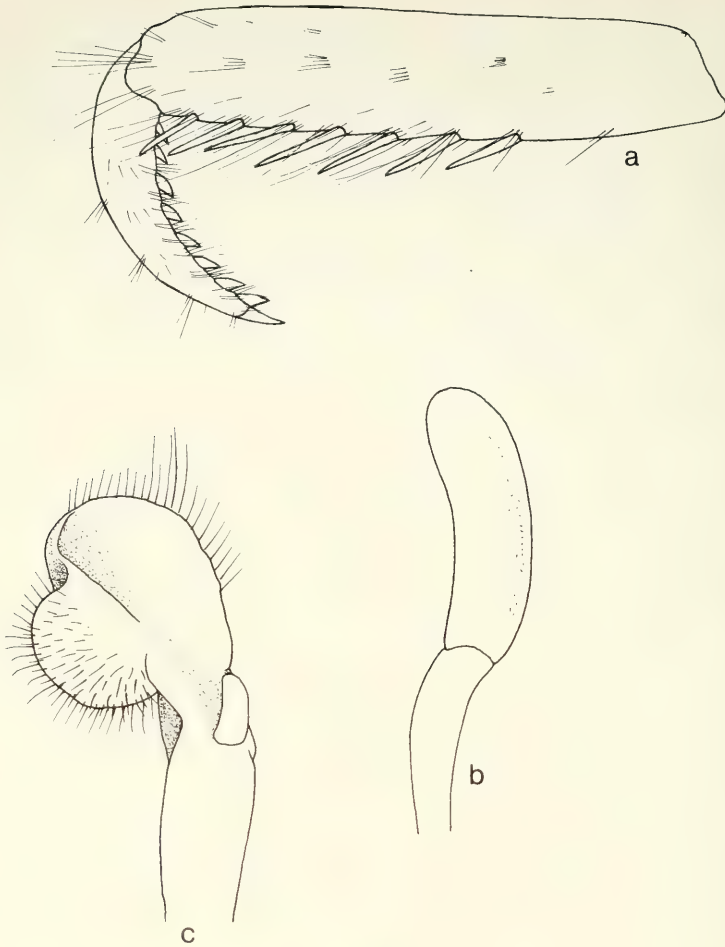


Fig. 7. *Uroptychus simiae*.

a. Dactylus and propodus of second pereopod; b. pleopod one, male; c. pleopod two, male.

Chelipeds four times longer than carapace and rostrum; finger and thumb about two-thirds length of palm, dactylus apically acute, with triangular tooth at midpoint of cutting edge plus smaller proximal tooth; cutting edge finely serrate; finger of propodus with broadly triangular point at distal third, cutting edge finely serrate; carpus smooth, equal to palm in length; merus slightly shorter than carpus, unarmed; ischium with dorsal hook-like spine and strong disto-ventral spine followed by three or four smaller spines.

Ambulatory pereopods with strongly curved dactyli, armed with eight broad ventral teeth; propodi with seven elongate ventral spines and numerous setae.

### Material

- |            |       |                    |                               |           |
|------------|-------|--------------------|-------------------------------|-----------|
| SAM-A15341 | SM 23 | Holotype ♂         | CL+R 6,0 mm                   | CB 4,8 mm |
| SAM-A15343 | SM 86 | Allotype 1 ovig. ♀ | CL+R 5,2 mm                   | CB 4,5 mm |
| SAM-A15342 | SM 23 | 2♂♂                | 6,0 × 4,8 mm to 4,8 × 3,8 mm  |           |
|            |       | 3♀♀                | 5,6 × 4,9 mm to 4,8 × 4,0 mm  |           |
|            |       | 1 ovig. ♀          | 4,8 × 4,0 mm                  |           |
| SAM-A15344 | SM 86 | 7♂♂                | 5,9 × 4,5 mm to 5,0 × 3,9 mm  |           |
|            |       | 9 ovig. ♀♀         | 5,9 × 4,5 mm to 5,0 × 3,9 mm. |           |

## Remarks

*U. simiae* belongs to the group of species characterized by a broadly triangular rostrum and a single strong lateral carapace spine in addition to the antero-lateral spine. Four species of this group resemble *U. simiae*. These are *U. brevirostris* van Dam, *U. cavirostris* Alcock & Anderson, *U. latirostris* Yokoya, and *U. sibogae* van Dam. In all four, however, the rostrum is longer than or equal in length to the eyestalks. In addition, the anterior sternum differs markedly except in *U. brevirostris*. In the latter species, the sternum differs only in that the portion at the base of the cheliped is serrated, while being smooth in the Natal species. Further, the lateral carapace spine is not obvious, and is more of a dent or bump than in *U. simiae*.

*Uroptychus undecimspinosus* sp. nov.

Figs 8–9

### Description

Carapace length (excluding rostrum) less than breadth; rostrum acutely triangular, dorsally slightly hollowed, lateral margins with three or four small teeth; carapace widest posteriorly, lateral margins armed with nine spines (including antero-lateral spine); single spine posterior to antero-lateral spine; irregular row of nine spines across anterior carapace; rest of carapace smooth. Sternum with deep median notch, flanked by small spines; antero-lateral angle of third maxilliped and first pereopod sternites spinose, remaining sternites acute, not spinose.

Carpus of third maxilliped with strong distal spine and three smaller proximal spines; merus with strong distal spine and two smaller spines at base; median margin of merus and ischium finely pectinate.

Two distal antennal peduncular segments with strong spine on inner distal angle, acicle extending slightly beyond apex of peduncle.

Chelipeds three times longer than carapace and rostrum; finger and thumb about two-thirds length of palm, cutting edges finely serrate, dactylus with broadly triangular serrated tooth proximally; carpus with row of eight strong spines on median margin, and row of seven smaller denticles on dorsal surface, two spines on both inner and outer disto-lateral angles; merus shorter than carpus, with four denticles on dorsal surface, about five spines on median margin,



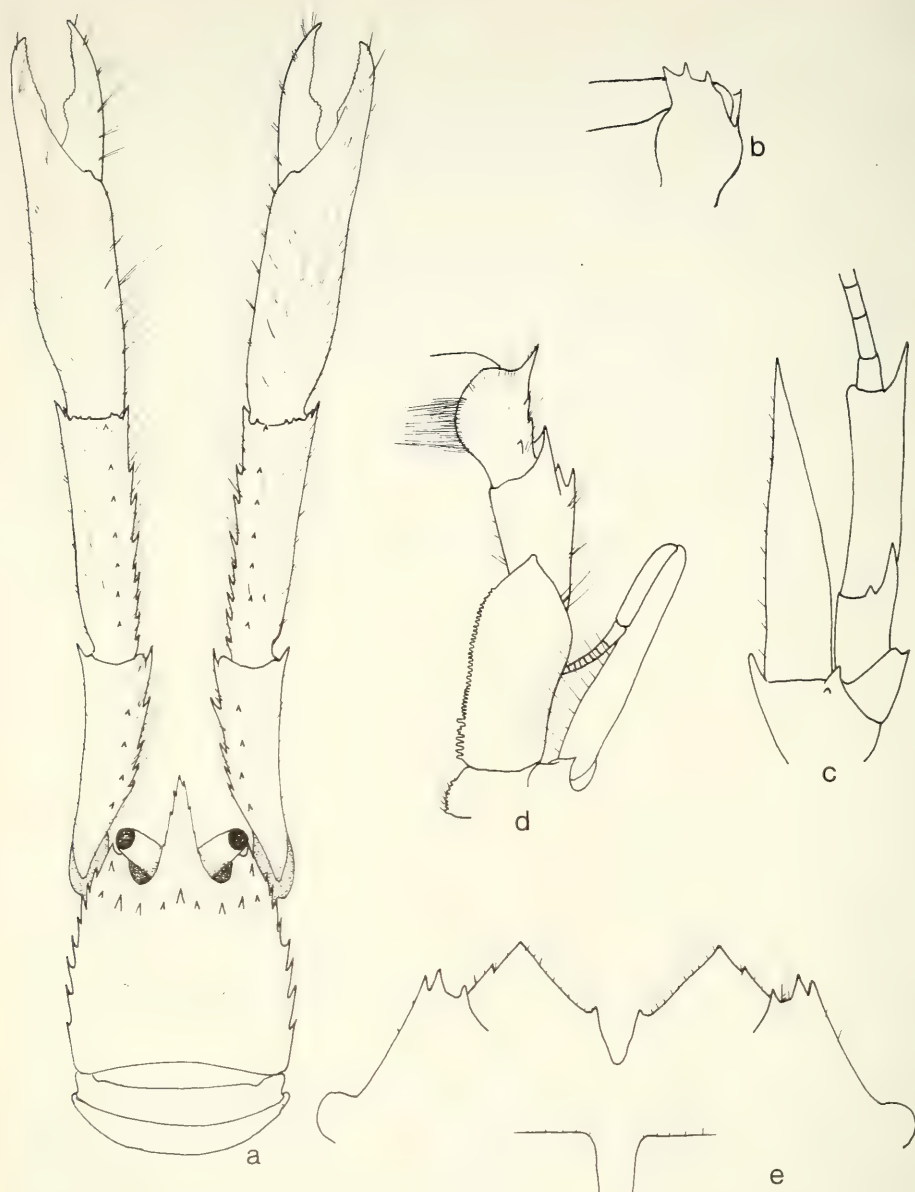


Fig. 8. *Uroptychus undecimspinosus*.

a. Holotype in dorsal view; b. base of antennule; c. antenna; d. third maxilliped; e. anterior portion of sternum.

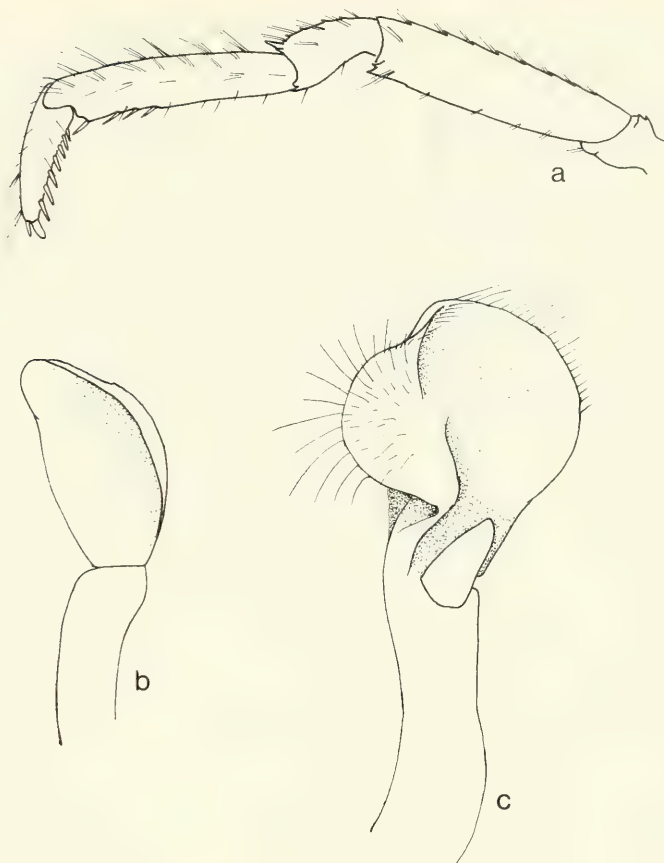


Fig. 9. *Uroptychus undecimspinosus*.

a. Ambulatory pereopod; b. pleopod one, male; c. pleopod two, male.

and about seven strong ventral spines; ischium and basis short, each armed with single ventro-distal spine. Ambulatory pereopods with about nine spines on ventral margin of dactyli, propodi with four disto-ventral spines, carpi with single disto-dorsal spine.

#### Material

SAM-A15315 SM 43 1♂ Holotype CL+R 5,9 mm CB 4,0 mm  
 1 ovig. ♀ Allotype 5,9 × 4,1 mm  
 1♀ Paratype 6,1 × 4,1 mm  
 4 juveniles.

*Remarks*

*U. undecimspinosus* belongs to the group of species characterized by the possession of spinose lateral carapace margins, a rostrum with minutely spinose margins, a row of spines across the anterior carapace, spinose carpi and meri, and smooth dactyli and propodi of the chelipeds. Several species can be placed in this group on most of these criteria, but none agrees with the present material. *U. intermedius* Edwards has smooth rostral margins, *U. sibogae* van Dam has smooth rostral margins and lacks anterior carapace spines; *U. nanophyes* McArdle has a similar rostrum and lateral carapace spines, but also has a granular or tubercular carapace. *U. spinosus* (Edwards & Bouvier) lacks anterior carapace spines, and has spinose propodi of the chelipeds. *U. minutus* Benedict lacks anterior carapace spines, has relatively short chelipeds, and a smooth rostrum. *U. parvulus* Henderson lacks anterior carapace spines, has a smooth rostrum, and a non-pectinate third maxilliped.

*U. undecimspinosus* is named for the eleven dorsal spines on the anterior carapace.

Family **Galatheidae***Munidopsis dasypus* Alcock

Fig. 10

*Munidopsis dasypus* Alcock, 1894: 329; 1901: 252. MacGilchrist, 1905: 245. Tirmizi, 1966: 218, fig. 32.

*Previous records*

South Arabian Coast, 1536–1939 m; Gulf of Aden, 1270 m.

*Material*

SAM-A15296 SM 10. 1 ovig. ♀ CL+R 21,0 mm CB 10,0 mm.

*Remarks*

Slight differences exist between the present ovigerous female and the above-mentioned descriptions. The posterior carapace margin possesses two spines, while earlier material varied from four to eight spines. The lateral carapace margin lacks a spine behind the strong antero-lateral spine, as figured in the *Investigator* specimen (Alcock 1895, pl. 13 (fig. 9)), while the chelipeds of the Natal specimen are less spinose, especially the meri. The basal segment of the antennular peduncle agrees with Tirmizi's (1966) figure 32B of the male, rather than with the female. Nevertheless, these differences cannot be considered of specific importance, considering the great distances over which the species is distributed. MacGilchrist (1905) noted the variability of the carapace spination in this species, and this no doubt also applies to the spination of the appendages.



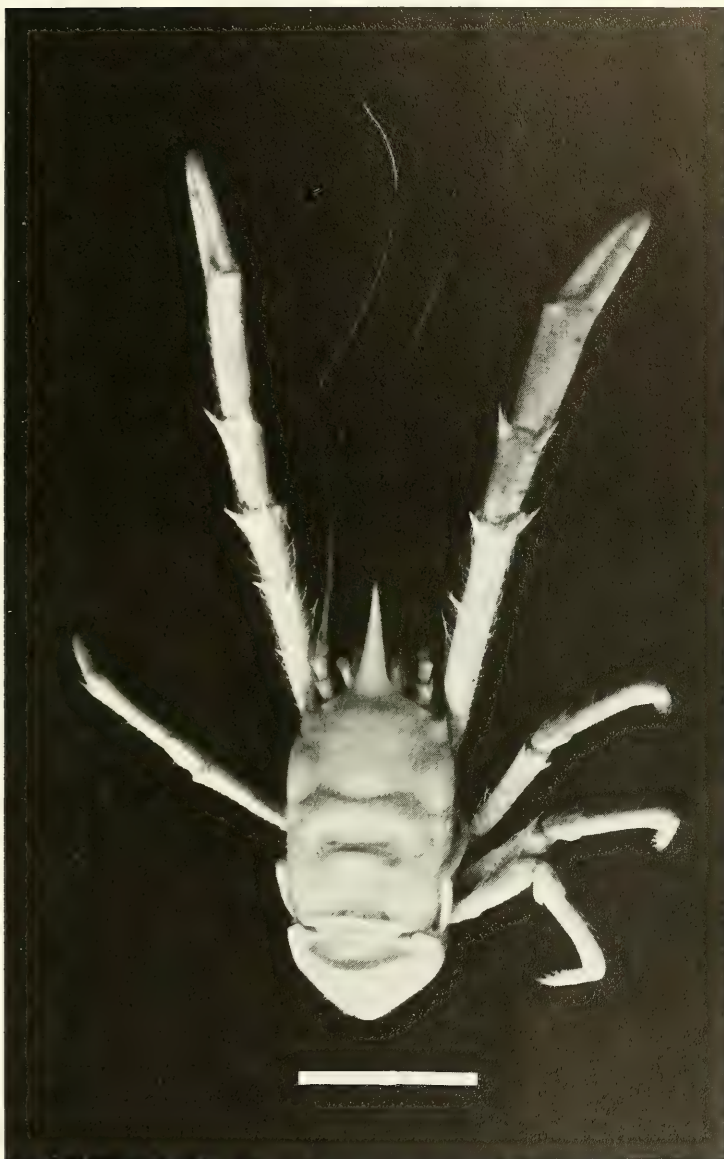


Fig. 10. *Munidopsis dasypus*. Scale = 10 mm.

Family **Homolodromiidae***Homolodromia bouvieri* Doflein

Figs 11–12

*Homolodromia bouvieri* Doflein, 1904: 4, fig. 1, pl. 5 (figs 1–3), pl. 38 (figs 9–13), pl. 43 (fig. 3).*Previous records*

East African Coast, 863 m (1♂).

*Material*

SAM-A15297 SM 22 1♂ CL+R 22,7 mm CB 18,4 mm.

*Remarks*

This appears to be only the second specimen of *H. bouvieri* and the third specimen of the genus known. The other species, *H. paradoxa*, is known from a single specimen from the West Indies.

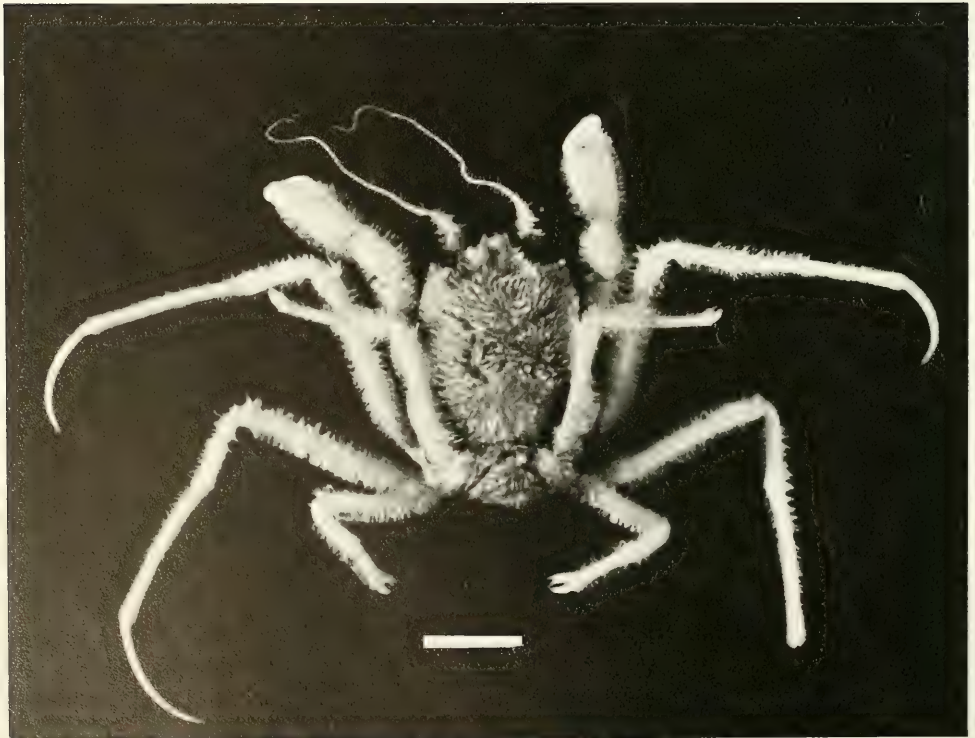


Fig. 11. *Homolodromia bouvieri*. Scale = 10 mm.

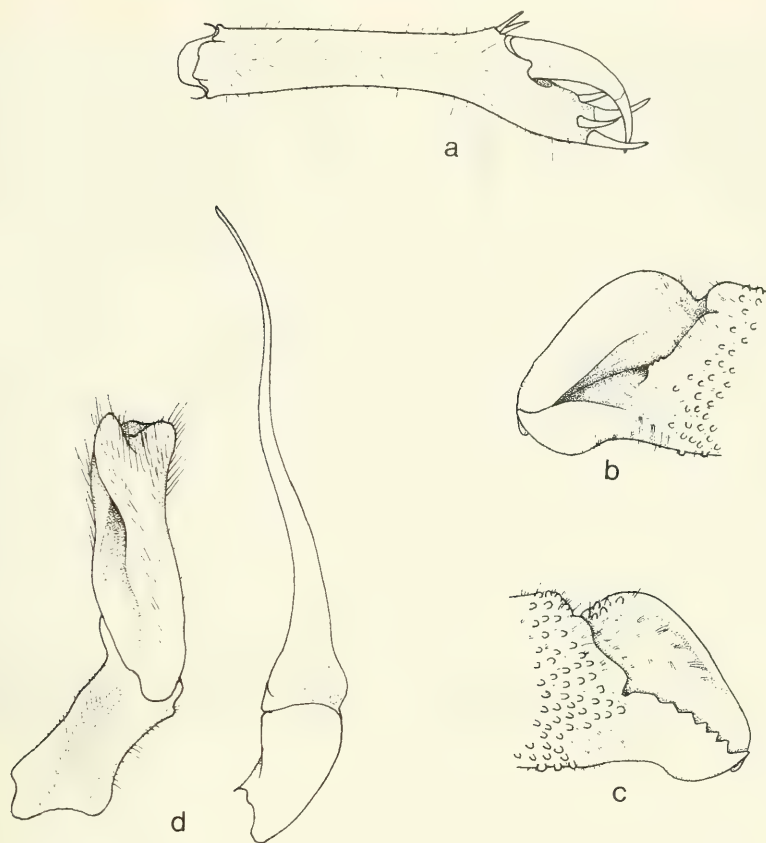


Fig. 12. *Homolodromia bouvieri*.

a. Dactylus and propodus of fourth pereiopod; b. inner view of chela; c. outer view of chela; d. first and second pleopods, male.

### Family **Dromiidae**

#### *Pseudodromia spinosissima* sp. nov.

Figs 13–15

#### *Description*

*Female*. Carapace, sternum, appendages, and dorsal surface of abdomen all bearing numerous short needle-like spines interspersed with numerous long finely spinulose hairs. Carapace length (including frontal lobes) slightly more than breadth, convex, regions not demarked; front tridentate, median point ventral to lateral lobes, dorsally visible; median and lateral lobes bearing spines. Spinose epistome meeting median rostral point; suborbital process broad, bearing several strong spines marginally. Abdomen broad, terminal segment cordiform, no sign of uropodal vestiges. Sternal grooves ending close together on median process between bases of chelipeds.



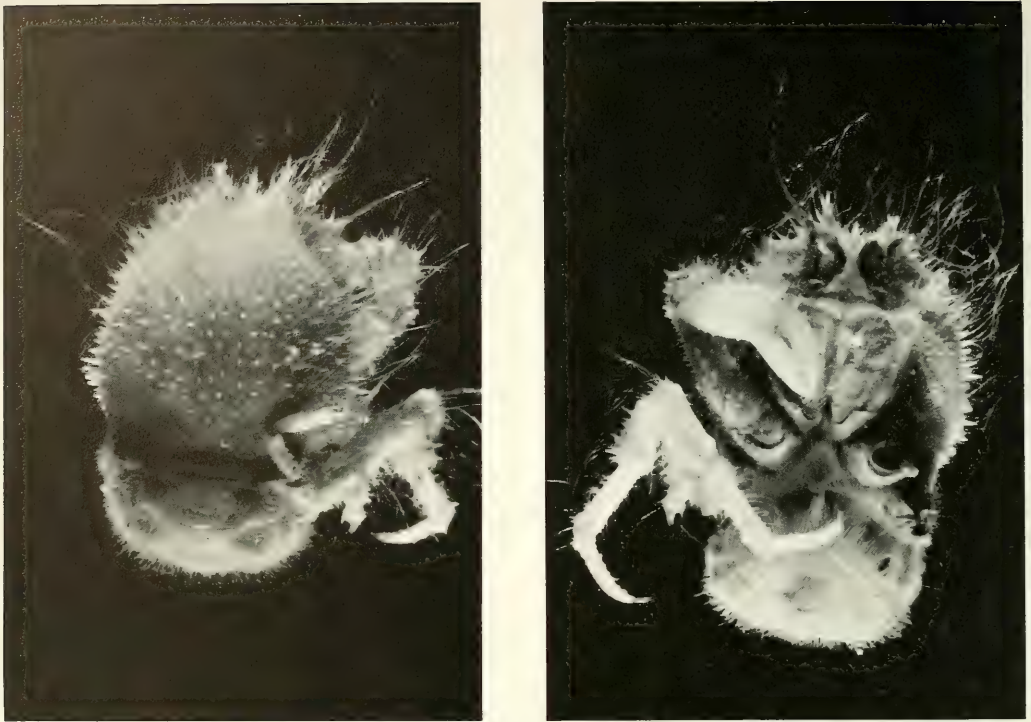


Fig. 13. *Pseudodromia spinosissima*. Dorsal and ventral view of ovigerous female.

Second antennal peduncle segment with spinose process on distal external angle. Endopod of third maxilliped operculiform, third to sixth segments bearing spines, exopod terete, tapering, not quite reaching to distal margin of fourth endopodal segment.

Chelipeds equal, finger and thumb of chela equal in length to palm, latter dorsally spinose, ventrally granular.

Two pairs of ambulatory pereopods similar, dactyli equal in length to propodi, distally curved, with five small ventral spines. Fourth pereopod slightly shorter than fifth, dactylus strongly curved, forming pincer with straight spine from distal end of propodus. Merus of fifth pereopod somewhat longer than that of fourth, dactylus strongly curved, forming pincer with distal propodal spine.

Branchial formula 6—3, i.e. six gills (that above fifth pereopod reduced) plus three epipodites, one each on maxillipeds one to three.

Three large eggs under abdomen.

*Male.* Carapace and pereopodal appendages as in female. Abdomen narrow and more spinose than in female, terminal segment tapering to narrow stalk bearing a tiny spinose knob. Coxae of both fifth pereopods bearing elongate cylindrical vas deferens directed towards midline. First pleopod

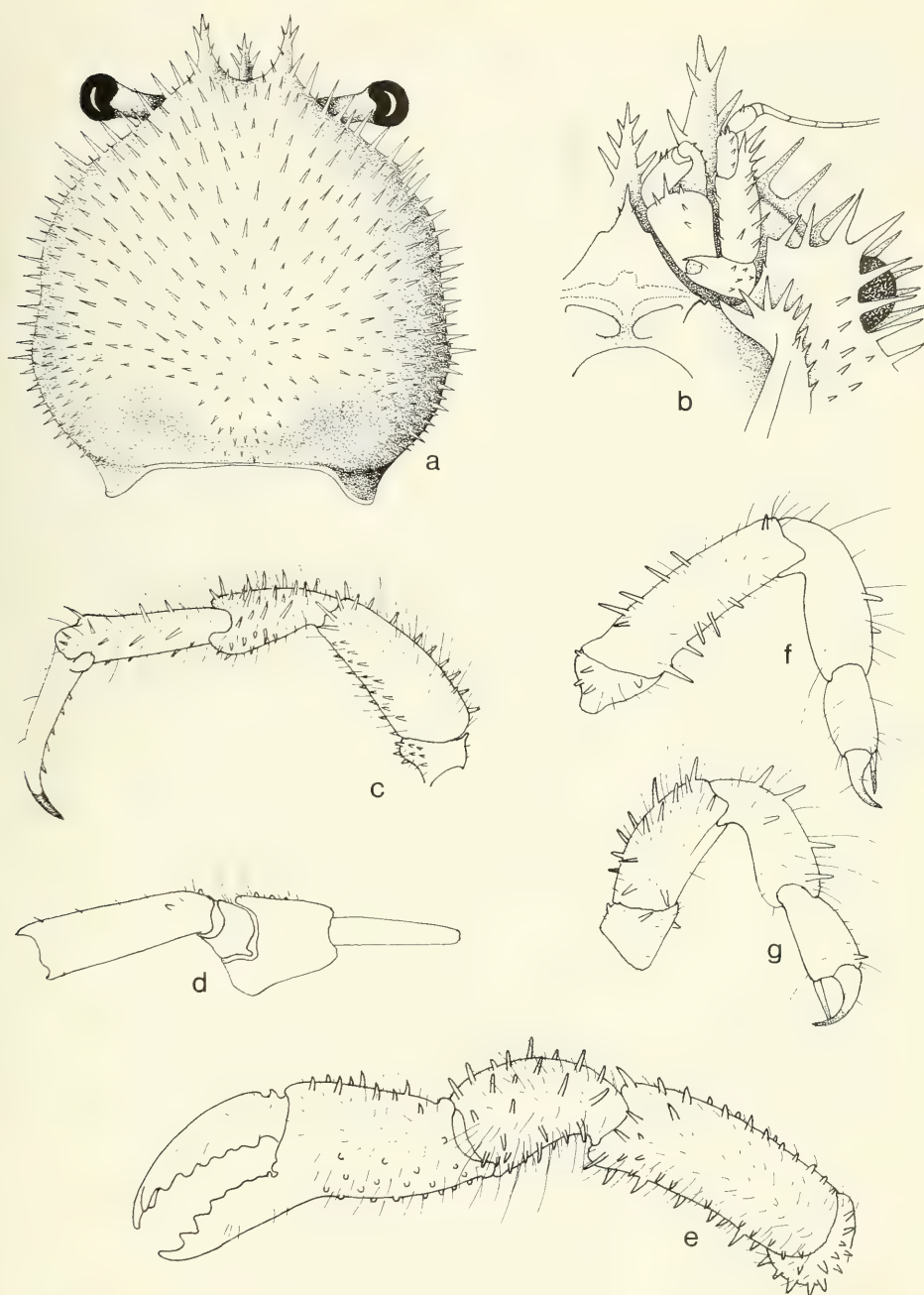


Fig. 14. *Pseudodromia spinosissima*.

a. Carapace, setae omitted; b. antero-ventral portion of cephalothorax; c. second pereiopod; d. male fifth pereiopod with vas deferens; e. cheliped; f. fifth pereiopod; g. fourth pereiopod.

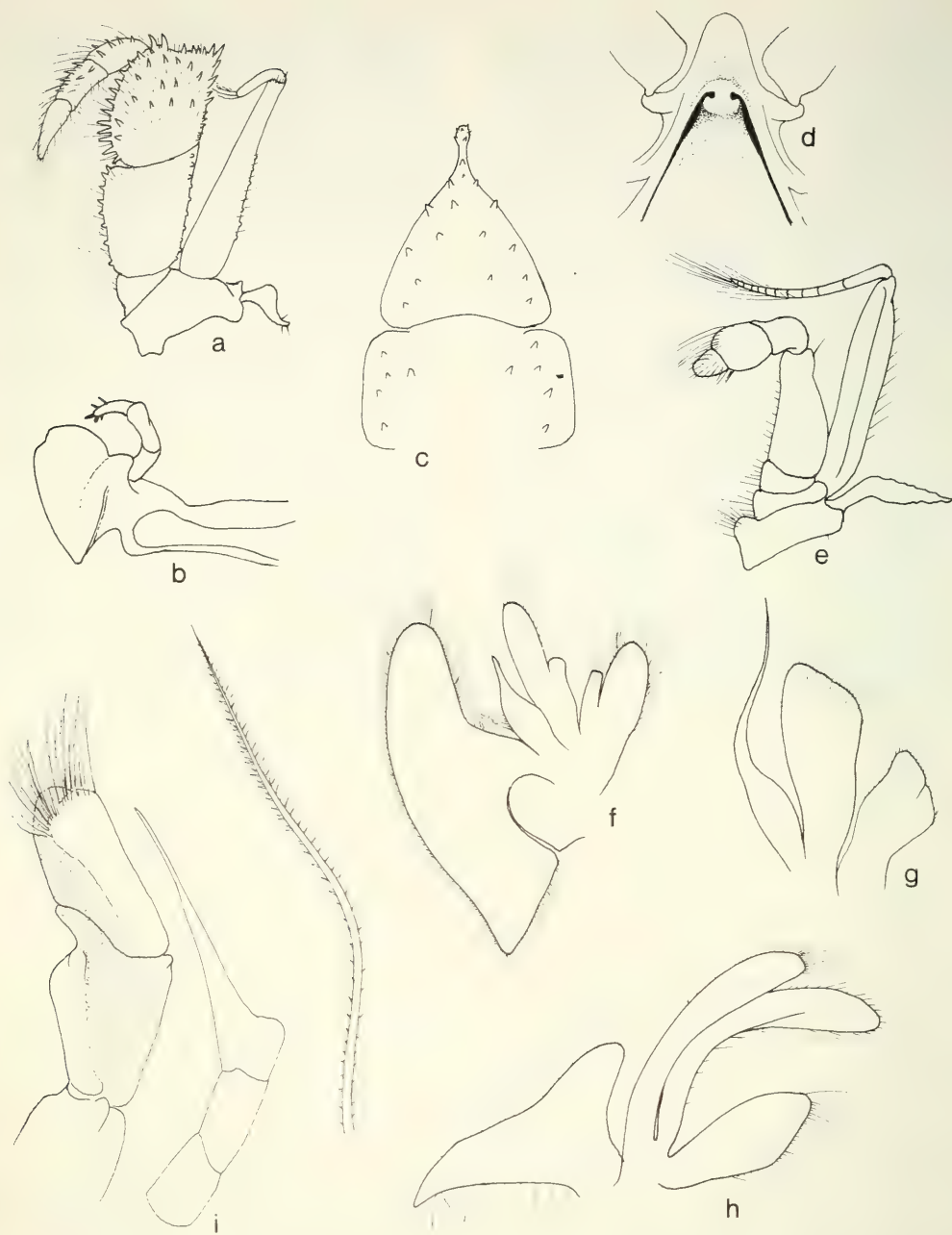


Fig. 15. *Pseudodromia spinosissima*.

a. Third maxilliped; b. mandible; c. apex of male abdomen; d. sternal grooves of female; e. second maxilliped; f. maxilla; g. maxillule; h. first maxilliped; i. male first and second pleopods, with apex of latter further enlarged.



2-segmented, inner face hollowed to accommodate narrow tapering second pleopod, apically bearing dense tuft of setae.

#### *Material*

SAM-A15301 SM 86 Holotype 1♂ CL+R 5,5 mm CB 4,8 mm

SAM-A15290 SM 43 Allotype 1 ovig. ♀ 6,0 × 5,2 mm

SAM-A15300 SM 86 Paratype 1♂ 5,1 × 4,4 mm

SAM-A15299 SM 16 Paratype 1♂ 4,6 × 3,9 mm.

#### *Remarks*

The lack of pereopodal epipods, the pereopods lacking ridges or knobs, the tridentate front, and the fifth pereopod being slightly longer than the fourth places this species in the genus *Pseudodromia*. Gordon (1950) in a description of *P. murrayi* Gordon has dealt thoroughly with the characteristics of the four species of this genus. *P. spinosissima* would seem to fit well into the group of two species possessing a tridentate front, viz. *P. rotunda* (McLeay) and *P. latens* Stimpson, especially in the possession of a distal lobe on the second antennal peduncle segment, a sternal boss on which the sternal furrows end in the female, and in the close resemblance of the first and second pleopods of the first and second pleopods of the male. A feature only reported for *P. murrayi* and present in this species is the projecting vas deferens from the coxa of the fifth pereopods in the male.

As the specific name implies, the species is extremely spinose, which immediately separates it from the other species.

### Family Majidae

#### *Platymaia turbynei* Stebbing

Fig. 16

*Platymaia turbynei* Stebbing, 1902: 3, pl. 5; 1920: 232; 1924: 1, pl. 10. Barnard, 1950: 31, 816, fig. 6a–c. Dell, 1963: 251. Griffin, 1974: 27.

#### *Previous records*

Off Durban, off Delagoa Bay, southern Moçambique Channel.

#### *Material*

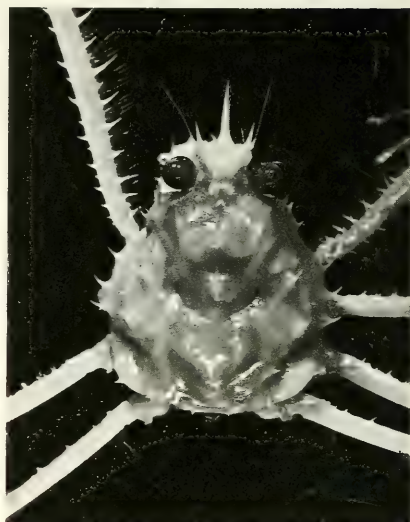
See *Species List*, page 162.

#### *Remarks*

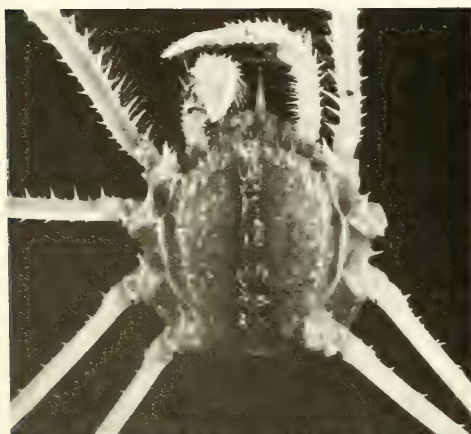
From the material now available, five size groups can be distinguished on the basis of carapace length, viz. 9–11 mm, 13–16 mm, 21–23 mm, 31–36 mm, and 42–47 mm for both sexes. Ovigerous females range from 44–47 mm.



a



c



b



d

Fig. 16. *Platymaia turbynei*.

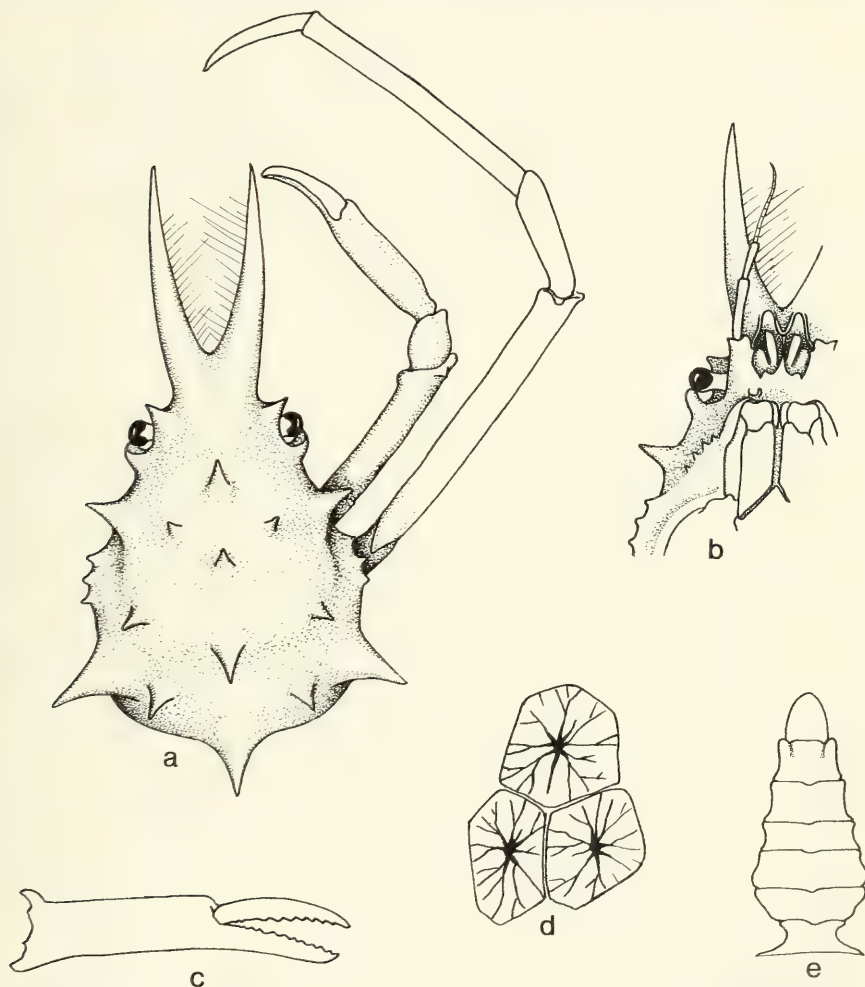
a-b. Dorsal and ventral view, ovigerous female; c-d. dorsal and ventral view, adult male.

*Rochinia natalensis* sp. nov.

Fig. 17

*Description*

*Female.* Entire integument of carapace, chelipeds and ambulatory legs covered with close-packed vesicles. Carapace pyriform, rostrum two elongate diverging 'horns'; carapace carrying 16 major conical spines: four median spines (two gastric, one cardiac, one intestinal), paired marginal supra-ocular spines, paired marginal hepatic spines, paired protogastric spines, three pairs

Fig. 17. *Rochinia natalensis*.

a. Holotype; b. antero-ventral portion of cephalothorax; c. chela; d. integumental vesicles; e. male abdomen.



mesobranchial spines (largest pair marginal) (see Griffin 1966: 22 for terminology). In addition three pairs small tubercles in lateral epibranchial area. Post-orbital process hollowed. Pterygostomian carrying four small tubercles.

Basal antennal segment with outer distal angle almost spinose.

Chelipeds equal, finger and thumb shorter than palm, curved, cutting edges serrate; merus with disto-dorsal acute tubercle, two small dorsal tubercles proximally, two small widely-separated ventral tubercles.

First pair of ambulatory legs longer than chelipeds or following legs; all legs with short acute tubercle at distal end of meri. Abdomen 7-segmented, globose between pereionial bases.

*Male* (immature). Essentially similar to female. Abdomen 7-segmented, third segment widest, terminal segment rounded.

### *Material*

SAM-A15323 SM 43 Holotype 1 ovig. ♀ CL 16,0 mm

SAM-A15324 SM 23 Paratype 1♂ CL 8,0 mm.

### *Remarks*

*R. natalensis* belongs to the 'histris' group of species, possessing four median carapace spines (Yaldwyn & Dawson 1976: 100). This group comprises eight species, six of which differ markedly from the Natal specimens either in the shape and/or the disposition of the carapace spines. Two species, however, show similarities to *R. natalensis*, but neither agrees completely.

*R. tanneri* (Smith) known from Massachusetts to Florida, has a very similar disposition of carapace spines, but lacks the group of three small spines in the branchial region, neither does it possess the dense carpet of vesicles over the entire integument. Further, the basal antennal segment carries a single spine, while the antenna is unarmed in *R. natalensis*. (See Rathbun 1925, pl. 227.)

*R. vesicularis* (Rathbun) known from the Galapagos Islands, does have an integumental covering of vesicles, but differs in the disposition of the carapace spines (see Rathbun 1925, pl. 230) and in the possession of two spines on the basal antennal segment, and a spine on the cheliped carpus.

## Family Portunidae

### *Charybdis smithii* McLeay

*Gonioneptunus smithii*: Barnard, 1950: 163, fig. 31j.

*Charybdis smithii*: Stephenson & Rees, 1967: 285. Crosnier & Thomassin, 1974: 1109, fig. 7.

### *Previous records*

Almost entire Indian Ocean.

*Material*

SAM-A15325 SM5 1♂ CL 25,4 mm CB 36,5 mm

SAM-A15326 SM45 1♂ 25,1 × 36,0 mm

1♀ 30,0 × 42,4 mm

1♀ 31,4 × 45,0 mm.

*Remarks*

This species was originally recorded from the 'Cape of Good Hope', almost certainly this was from off the east coast, possibly off Natal.

## ACKNOWLEDGEMENTS

In addition to the people and institutions thanked in the introductory paper of this series, I should like to thank Mr S. X. Kannemeyer of the South African Museum for the photographs, Dr R. B. Manning of the Smithsonian Institution for the loan of *Uroptychus* material, and Dr A. Crosnier of the Paris Museum for the loan of *Charybdis* material. I am very grateful to Dr E. A. Chace Jr. of the Smithsonian Institution, and Prof. J. H. Day of the University of Cape Town for reading the MS. and for their many useful criticisms.

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6. SYSTEMATIC papers must conform with the *International code of zoological nomenclature* (particularly Articles 22 and 51).

Names of new taxa, combinations, synonyms, etc., when used for the first time, must be followed by the appropriate Latin (not English) abbreviation, e.g. gen. nov., sp. nov., comb. nov., syn. nov., etc.

An author's name when cited must follow the name of the taxon without intervening punctuation and not be abbreviated; if the year is added, a comma must separate author's name and year. The author's name (and date, if cited) must be placed in parentheses if a species or subspecies is transferred from its original genus. The name of a subsequent user of a scientific name must be separated from the scientific name by a colon.

Synonymy arrangement should be according to chronology of names, i.e. all published scientific names by which the species previously has been designated are listed in chronological order, with all references to that name following in chronological order, e.g.:

#### Family Nuculanidae

*Nuculana (Lembulus) bicuspidata* (Gould, 1845)

Figs 14–15A

*Nucula (Leda) bicuspidata* Gould, 1845: 37.

*Leda plicifera* A. Adams, 1856: 50.

*Laeda bicuspidata* Hanley, 1859: 118, pl. 228 (fig. 73). Sowerby, 1871: pl. 2 (figs 8a–b).

*Nucula largillierti* Philippi, 1861: 87.

*Leda bicuspidata*: Nicklès, 1950: 163, fig. 301; 1955: 110. Barnard, 1964: 234, figs 8–9.

Note punctuation in the above example:

comma separates author's name and year

semicolon separates more than one reference by the same author

full stop separates references by different authors

figures of plates are enclosed in parentheses to distinguish them from text-figures

dash, not comma, separates consecutive numbers

Synonymy arrangement according to chronology of bibliographic references, whereby the year is placed in front of each entry, and the synonym repeated in full for each entry, is not acceptable.

In describing new species, one specimen must be designated as the holotype; other specimens mentioned in the original description are to be designated paratypes; additional material not regarded as paratypes should be listed separately. The complete data (registration number, depository, description of specimen, locality, collector, date) of the holotype and paratypes must be recorded, e.g.:

#### Holotype

SAM-A13535 in the South African Museum, Cape Town. Adult female from mid-tide region, King's Beach, Port Elizabeth (33°51'S 25°39'E), collected by A. Smith, 15 January 1973.

Note standard form of writing South African Museum registration numbers and date.

## 7. SPECIAL HOUSE RULES

### Capital initial letters

- The Figures, Maps and Tables of the paper when referred to in the text  
e.g. '... the Figure depicting *C. namacolus* ...'; '... in *C. namacolus* (Fig. 10) ...'
- The prefixes of prefixed surnames in all languages, when used in the text, if not preceded by initials or full names  
e.g. Du Toit but A. L. du Toit; Von Huene but F. von Huene
- Scientific names, but not their vernacular derivatives  
e.g. Therocephalia, but therocephalian

Punctuation should be loose, omitting all not strictly necessary

Reference to the author should be expressed in the third person

Roman numerals should be converted to arabic, except when forming part of the title of a book or article, such as

'Revision of the Crustacea. Part VIII. The Amphipoda.'

Specific name must not stand alone, but be preceded by the generic name or its abbreviation to initial capital letter, provided the same generic name is used consecutively.

Name of new genus or species is not to be included in the title: it should be included in the abstract, counter to Recommendation 23 of the Code, to meet the requirements of Biological Abstracts.



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CRUSTACEA, DECAPODA, ANOMURA AND BRACHYURA